

Montana Board of Oil and Gas Conservation Environmental Assessment

Proposed Action: Approve Drilling Permit (Form 22)

Operator: Phoenix Exploration Group, Inc

Well Name/Number: Wickum 23-30

Location: NE SW Section 30 T35N R5E

County: Liberty, MT; Field (or Wildcat) Wildcat

Air Quality

(possible concerns)

Long drilling time: No, 3-4 days drilling time.

Unusually deep drilling (high horsepower rig): No, a single vertical Bow Island, Swift, Sawtooth & Madison Formation test, 3,000' MD/3,000' TVD.

Possible H₂S gas production: Slight chance H₂S gas from Mississippian Formations.

In/near Class I air quality area: No.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: Drilling rig to drill a single vertical Bow Island, Swift, Sawtooth & Madison Formation test, 3,000' MD/3,000' TVD. If there is an existing pipeline for associated gas/H₂S gas in the area gas can be gathered or if no gathering system nearby limited amounts of associated gas/H₂S gas can be flared under Board Rule 36.22.1220.

Water Quality

(possible concerns)

Salt/oil based mud: No, well to be drilled with air and native mud. If additional density is required, additives of gel, caustic soda, and lignite may be added.

High water table: No high water table anticipated.

Surface drainage leads to live water: Yes – Corral Creek is located about 680 feet to the east, and a stock pond about 1/5 of a mile to the north from the location.

Water well contamination: None, no water wells in area that could be affected. No water wells within a 1/2 mile radius. This well will drill surface with air and native mud. (Rule 36.22.1001) and will run 750' of steel surface casing and cement it to surface.

Porous/permeable soils: No, sandy clay soils.

Class I stream drainage: None.

Mitigation:

☐ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☐ Closed mud system

☐ Off-site disposal of liquids (in approved facility)

☐ Other: _____

Comments: 750' surface casing well below freshwater zones in adjacent water wells. Also, covering Fox Hills aquifer, Rule 36.22.1001. Adequate surface casing and BOP equipment to prevent any problems, rule 36.22.1014 Well to be drilled with air and native mud. If additional density is required, additives of gel, caustic soda, and lignite may be added.

Soils/Vegetation/Land Use

(possible concerns)

Steam crossings: None anticipated.

High erosion potential: No high erosion potential on this location. Small cut of 9.6' and small fill of 4.2'.

Loss of soil productivity: None, location to be restored after drilling well, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: No, well site 250'X234'.

Damage to improvements: Slight, surface use is cultivated land.

Conflict with existing land use/values: Slight

Mitigation

☐ Avoid improvements (topographic tolerance)

☐ Exception location requested

☒ Stockpile topsoil

☐ Stream Crossing Permit (other agency review)

☒ Reclaim unused part of wellsite if productive

☐ Special construction methods to enhance reclamation

☐ Other _____

Comments: Access will be over existing Whitlash Road. Cuttings and mud solids will be dried and disposed of in the unlined reserve pit on the wellsite. The reserve pit will be reclaimed.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: No residence within a 1 mile radius.

Possibility of H2S: Slight chance H2S gas from Mississippian Formations.

Size of rig/length of drilling time: Drilling rig 3 to 4 days drilling time.

Mitigation:

☒ Proper BOP equipment

☐ Topographic sound barriers

☐ H2S contingency and/or evacuation plan

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: Adequate surface casing cemented to surface with a working BOP stack should mitigate any problems, rule 36.22.1014.

Wildlife/recreation

(possible concerns)

Sage Grouse: NA

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified.

Creation of new access to wildlife habitat: No, none.

Conflict with game range/refuge management: No, none.

Threatened or endangered Species: Species identified as threatened or endangered are the Red Knot and Black-footed ferret. NH tracker website indicates four (4) species of concern in this area, Veery, Loggerhead Shrike, McCown's Longspur, and Gray Comma.

Mitigation:

☐ Avoidance (topographic tolerance/exception)

☐ Other agency review (DFWP, federal agencies, DSL)

☐ Screening/fencing of pits, drillsite

☐ Other: _____

Comments: This is private cultivated surface lands. There may be species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern are discovered at this location.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites: None identified.

Mitigation

☐ avoidance (topographic tolerance, location exception)

☐ other agency review (SHPO, DSL, federal agencies)

☐ Other: _____

Comments: This is private cultivated surface lands. There may be possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite.

Social/Economic

(possible concerns)

☐ Substantial effect on tax base

☐ Create demand for new governmental services

☐ Population increase or relocation

Comments: No concerns.

Remarks or Special Concerns for this site

Single vertical Bow Island, Swift, Sawtooth & Madison Formation test, 3,000'MD/3,000'TVD.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/ John Gizicki

(title:) Compliance Specialist

Date: July 08, 2016

Other Persons Contacted:

Bureau of Mines and Geology, GWIC website

(Name and Agency)

Water wells in Liberty County, Montana

(subject discussed)

July 08, 2016
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA
COUNTIES, Liberty County
(subject discussed)

July 08, 2016
(date)

Montana Cadastral Website
(Name and Agency)
Surface Ownership and surface use: Section 30 T35N R5E
(subject discussed)

July 08, 2016
(date)

Montana Natural Heritage Program Website (FWP) T35N R5E
(Name and Agency)
Species of Concern in Liberty County, Montana
(subject discussed)

July 08, 2016
(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____